



Exhibit 2

CHART FOR U.S. PATENT NO. 7,916,630 (“‘630 Patent”)

Accused Instrumentalities: HP’s products, including at least each of the following routers and router software infringe at least Claims 1, 2-7, 14, and 15: CX 6200, 6300, 6400, 8320, 8325, 8360, 8400, 10000 switches and AOS-CX 10.08 or later. The infringement chart below is based on the HP’s 6300 switch (“HP 6300 switch”), which is exemplary of the infringement of the ‘630 Patent.

Claims	HP 6300 switch
<p>[1pre] A method for monitoring a system condition of a network with distributed components organized in a logical ring structure, comprising:</p>	<p>To the extent the preamble is deemed limiting, HP 6300 switch router monitors the system condition of a ring network.</p> <p>An ERPS ring supports multiple ERPS instances. An ERPS instance is a logical ring to process service and protocol packets. Each ERPS instance has its own owner node and maintains its own state and data. An ERPS instance is uniquely identified by the ring ID and VLAN ID of ERPS packets. The ring ID indicates the ring of ERPS packets. It can be represented by the last byte in the destination MAC address of the packets. The VLAN ID indicates the ERPS instance of the packets.</p> <p>See, e.g., https://techhub.hpe.com/eginfolib/networking/docs/switches/5950/5200-4008_hi-avail_cg/content/499751769.htm</p> <hr/> <div data-bbox="583 873 924 1039">  <p>ERPS supported on the following switches:</p> <ul style="list-style-type: none"> ▪ 6300 ▪ 6400 ▪ 8320 ▪ 8325 ▪ 8360 ▪ 8400 </div> <hr/> <p>Ethernet Ring Protection Switching (ERPS) is a protocol defined by the International Telecommunication Union - Telecommunication Standardization Sector (ITU-T) to eliminate loops at Layer 2. Because the standard number is ITU-T G.8032/Y1344, ERPS is also called G.8032. ERPS defines Ring Auto Protection Switching (RAPS) Protocol Data Units (PDUs) and protection switching mechanisms.</p> <p>See, e.g., https://www.arubanetworks.com/techdocs/AOS-CX/10.08/HTML/high_availability/Content/Chp_ERPS/erp-tit-onl.htm</p> <p>Generally, redundant links are used on an Ethernet switching network such as a ring network to provide link backup and enhance network reliability. The use of redundant links, however, may result in creating network loops, causing broadcast storms, and rendering the MAC address table unstable. As a result, communication quality deteriorates, and communication services may even be interrupted.</p> <p>Ethernet networks demand faster protection switching. STP does not meet the requirement for fast convergence.</p> <p>ERPS, a standard ITU-T protocol, prevent loops on ring networks. It optimizes detection and performs fast convergence. ERPS allows all ERPS-capable devices on a ring network to communicate.</p>

	<p>See https://www.arubanetworks.com/techdocs/AOS-CX/10.08/HTML/high_availability/Content/Chp_ERPS/erp-tit-onl.htm</p> <pre> erps ring <RINGID> no erps ring <RINGID> </pre> <p>Description</p> <p>This command creates an ERPS ring with a given ID.</p> <p>The <code>no</code> form of this command removes all the configurations of the ring, including instances.</p> <table border="1"> <thead> <tr> <th>Parameter</th><th>Description</th></tr> </thead> <tbody> <tr> <td><RINGID></td><td>Required, specifies the ID of the ring. Range: 1-239</td></tr> </tbody> </table> <p>Examples</p> <p>Create an ERPS ring:</p> <pre> switch(config)# erps ring 2 switch(config-ring-2)# </pre> <p>See, e.g., https://www.arubanetworks.com/techdocs/AOS-CX/10.08/HTML/high_availability/Content/Chp_ERPS/ERPS_cmds/erp-rin.htm</p>	Parameter	Description	<RINGID>	Required, specifies the ID of the ring. Range: 1-239
Parameter	Description				
<RINGID>	Required, specifies the ID of the ring. Range: 1-239				
<p>[1a] each component in the system monitoring only a single respective neighboring component among said distributed components that is a predecessor or successor of said each component in the logical ring structure to determine a current condition of the respective neighboring component; and</p>	<p>Each HP 6300 switch router organized in a ring structure monitors only a single respective neighboring component among said distributed components that is a predecessor or successor of said each component in the logical ring structure to determine a current condition of the respective neighboring component.</p> <div>  <div> <p>ERPS supported on the following switches:</p> <ul style="list-style-type: none"> ▪ 6300 ▪ 6400 ▪ 8320 ▪ 8325 ▪ 8360 ▪ 8400 </div> </div> <p>Ethernet Ring Protection Switching (ERPS) is a protocol defined by the International Telecommunication Union - Telecommunication Standardization Sector (ITU-T) to eliminate loops at Layer 2. Because the standard number is ITU-T G.8032/Y1344, ERPS is also called G.8032. ERPS defines Ring Auto Protection Switching (RAPS) Protocol Data Units (PDUs) and protection switching mechanisms.</p> <p>See https://www.arubanetworks.com/techdocs/AOS-CX/10.08/HTML/high_availability/Content/Chp_ERPS/erp-tit-onl.htm</p>				

The R-APS messages transmitted by ERPS take the form of OAM PDUs as defined in G.8013. Each OAM PDU is transmitted at a specified level known as the Maintenance Entity Group (MEG) level. This command configures the level with which the ERPS packets must be transmitted.

The `no` form of this command removes the configured MEG level and sets it to the default value of 7.

Parameter	Description
<RINGID>	Required, specifies the ID of the ring. Range: 1-239
<0-7>	Required, specifies the meg-level. Range: 0-7. Default: 7.

Examples

Specify the meg-level:

```
switch(config)# erps ring 3
switch(config-erps-ring-3)# meg-level 4
```

Remove the configured meg-level and set it to the default value of 7:

```
switch(config)# erps ring 3
switch(config-erps-ring-3)# no meg-level
```

See, e.g., https://www.arubanetworks.com/techdocs/AOS-CX/10.08/HTML/high_availability/Content/Chp_ERPS/ERPS_cmds/erp-rin-rinid-meg-lev.htm

The OAM PDU used for ETH-CC information is CCM, as described in clause 9.2. Frames which carry the CCM PDU are called CCM frames.

7.1.1 CCM (with ETH-CC information) transmission

When ETH-CC is enabled, a MEP periodically transmits CCM frames as often as the configured transmission period. The transmission period can be one of the following seven values:

- 3.33 ms: default transmission period for protection switching application (transmission rate of 300 frames/second);
- 10 ms: (transmission rate is 100 frames/second);
- 100 ms: default transmission period for performance monitoring application (transmission rate of 10 frames/second);
- 1 s: default transmission period for fault management application (transmission rate of 1 frame/second);
- 10 s: (transmission rate of 6 frames/minute);
- 1 min: (transmission rate of 1 frame/minute);
- 10 min: (transmission rate of 6 frames/hour);

See, e.g., ITU-T G.8013/Y.1731 at p. 11.

When a MEP receives a CCM frame, it examines it to ensure that its MEG ID matches the configured MEG ID in the receiving MEP, and that the MEP ID in the CCM frame is one from the configured list of peer MEP IDs. The information in the CCM frame is catalogued in the receiving MEP.

See, e.g., ITU-T G.8013/Y.1731 at p. 11.

CCM frames allow the detection of different defect conditions, which include:

- If no CCM frames from a peer MEP are received within the interval equal to 3.5 times, the receiving MEP's CCM transmission period, loss of continuity with peer MEP is detected.
- If a CCM frame with a MEG level lower than the receiving MEP's MEG level is received, unexpected MEG level is detected.
- If a CCM frame with the same MEG level but a MEG ID different than the receiving MEP's own MEG ID is received, mismerge is detected.
- If a CCM frame with the same MEG level and a correct MEG ID but with an incorrect MEP ID, including the receiving MEP's own MEP ID, is received, unexpected MEP is detected.
- If a CCM frame is received with a correct MEG level, a correct MEG ID, a correct MEP ID, but with a period field value different to the receiving MEP's own CCM transmission period, unexpected period is detected.

A receiving MEP must notify the equipment fault management process when it detects the above defect conditions.


See, e.g., ITU-T G.8013/Y.1731 at p. 12.

List of peer MEP IDs – list of peer MEPs in the MEG. For a point-to-point MEG with a single ME, the list would consist of a single MEP ID for the peer.

See, e.g., ITU-T G.8013/Y.1731 at p. 10.

Bidirectional link failures are detected by the two Ethernet ring nodes adjacent to the failed ring link. These two Ethernet ring nodes trigger protection switching and keep the traffic channel blocked at both ends of the failed ring link. Unidirectional link failures are detected by only one of the Ethernet ring nodes adjacent to the failed ring link. This Ethernet ring node is the only node triggering protection switching and keeps the traffic channel blocked at its end of the failed ring link. These ring port blocking behaviours are essential to prevent the Ethernet ring from forming loops when the link failure is recovered. A node failure situation is handled as the failure of both ring links of the Ethernet ring node. The two Ethernet ring nodes adjacent to the failed Ethernet ring node initiate protection switching by detecting the SF condition on ring links connected to the failed Ethernet ring node.

See, e.g., ITU-T G.8032/Y.1344 at p. 38.

	<p>Sets the packet transmission interval.</p> <p>The <code>no</code> form of this command sets the packet transmission interval to the default value of 7000 ms.</p> <p>The allowed values vary depending on the operation mode.</p> <p>The default interval is 7000 ms (7 seconds) for both ArubaOS-Switch and RFC5171 operation modes.</p> <p>Values must be specified as multiples of 10 ms (7000 ms is allowed but 7005 ms is not a valid setting).</p> <p>Switch mode can be configured to support under 100ms unidirectional link detection times.</p> <hr/> <p> Sessions under 100ms total detection time are susceptible to increasing processing load on the system. It is advisable to experiment with values that provide adequate detection times and system/protocol stability. Aruba recommends additional testing prior to configuring these sessions on a production environment.</p> <hr/> <p>However, these settings are recommended for specific deployments only, such as using UDLD for Ethernet Ring Protection Switching (ERPS) link-failure detection. The minimum detection time appropriate for your environment depends on the specific device family and configuration on which the protocol and system load is running. Aruba recommends additional testing for these configurations. During testing, monitor for unexpected false positive detections (i.e., UDLD records a failure when there was not any) on the interfaces running UDLD. Such false positive failures are an indication that the interval configuration requires tuning and that the system load might not allow such configuration.</p> <p>See, e.g., https://www.arubanetworks.com/techdocs/AOS-CX/10.07/HTML/5200-7868/Content/Chp_udld/udld_cmds/udl-int.htm</p> <ul style="list-style-type: none"> • Uni-directional Link Detection (UDLD) to monitor link connectivity and shut down ports at both ends if uni-directional traffic is detected, preventing loops in STP-based networks <p>See, e.g., Aruba CX 6300 Switch Series at p. 5 available at https://www.arubanetworks.com/assets/ds/DS_6300Series.pdf</p>
[1b] each component in the system informing all other components of the system about the current condition of the respective neighboring component when the current condition corresponds to at least one predefined condition.	Each HP 6300 switch router organized in a ring structure informs all other components of the system about the current condition of the respective neighboring component when the current condition corresponds to at least one predefined condition.

Specifies hold-off interval in units of 100 ms. If specified, a defect is not reported immediately. Instead, the hold-off timer is started. On expiration of the timer, if the defect still exists, it is reported to protection switching. The default value for hold-off timer is 0.

The `no` form of this command removes the configured value of the hold-off interval and sets it to the default value of 0.

Parameter	Description
<RINGID>	Required, specifies the ID of the ring. Range: 1-239
<100 milliseconds>	Required, specifies the hold-off interval in units of 100 ms. Default: 0.

Examples

Specify the hold-off interval:

```
switch(config)# erps ring 3
switch(config-erps-ring-3)# hold-off-interval 100
```

Remove the configured value of the hold-off interval and set it to the default value of 0:

```
switch(config)# erps ring 3
switch(config-erps-ring-3)# no hold-off-interval
```

See, e.g., https://www.arubanetworks.com/techdocs/AOS-CX/10.08/HTML/high_availability/Content/Chp_ERPS/ERPS_cmds/erp-rin-rinid-hol-off-int.htm

Description

This command adds a control-channel VLAN to a ring instance. In an ERPS ring, the control VLAN should be used only to forward RAPS PDUs and not service packets. All the devices in an ERPS ring instance must be configured with the same control VLAN, and different ERPS ring instances must use different control VLANs.

The `no` form of this command removes the control-channel VLAN of the ring instance.

Parameter	Description
<RINGID>	Required, specifies the ID of the ring. Range: 1-239
<ID>	Required, specifies the ERPS ring instance identifier. Range: 1-2.
<VID>	Required, VLAN ID. Range: 1-4094.

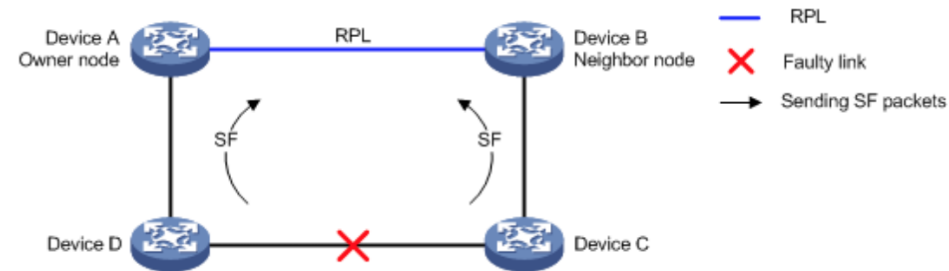
See, e.g., https://www.arubanetworks.com/techdocs/AOS-CX/10.08/HTML/high_availability/Content/Chp_ERPS/ERPS_cmds/erp-rin-rinid-ins-id-con-vla.htm

Signal fail (SF)	When a link fails to send or receive signals, the node that detects the fault periodically sends SF packets. When the owner node and neighbor node receive the FS packets, they unblock the RPL ports. The node stops sending SF packets after the fault is cleared.
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See, e.g., https://techhub.hpe.com/eginfolib/networking/docs/switches/5950/5200-4008_hi-avail_cg/content/499751770.htm

Link-down report mechanism

Figure 25: Link-down report mechanism



As shown in [Figure 25](#), the link-down report mechanism uses the following process:

1. Device C and Device D detect the link failure and perform the following operations:
 - a. Block the ports on both side of the faulty link.
 - b. Periodically send SF packets to other nodes.

See, e.g., https://techhub.hp.com/eginfolib/networking/docs/switches/5950/5200-4008_hi-avail_cg/content/499751773.htm

2. The method as claimed in claim 1, wherein the at least one predefined condition is at least one of a functional incapacity corresponding to an offline condition and a functional capacity corresponding to an online condition.

Cisco HP 6300 switch performs the method of claim 1, wherein the at least one predefined condition is at least one of a functional incapacity corresponding to an offline condition and a functional capacity corresponding to an online condition.

For example, HP 6300 switch detects signal fail (SF) or no request (NR) signals sent from the adjacent nodes.

No request (NR)	After the link fault is cleared, the node that detects the recovery periodically sends NR packets. When the owner node receives the NR packets, it starts the WTR timer. The node stops sending NR packets after receiving NR-RB packets from the owner node.
Signal fail (SF)	When a link fails to send or receive signals, the node that detects the fault periodically sends SF packets. When the owner node and neighbor node receive the FS packets, they unblock the RPL ports. The node stops sending SF packets after the fault is cleared.

See, e.g., https://techhub.hp.com/eginfolib/networking/docs/switches/5950/5200-4008_hi-avail_cg/content/499751770.htm

	<p>This command displays detailed information about a specific ring or all instances of a ring. The ring instance may be in one of the following states:</p> <ul style="list-style-type: none"> ▪ Idle: The ring instance is operational. ▪ Initializing: The ring instance is not operational. ▪ Protection: Protection switching has been triggered by a local or remote link failure. ▪ Pending: Pending clearance of a previous protection switch. ▪ Down: Ring instance is not active. ▪ Manual-switch: Manual protection switching triggered by Admin-down. ▪ Force-switch: Forced protection switching triggered by admin. <p>See, e.g., https://www.arubanetworks.com/techdocs/AOS-CX/10.08/HTML/high_availability/Content/Chp_ERPS/ERPS_cmds/sho-erp-sta4.htm</p>
<p>3. The method as claimed in claim 2, wherein at least one of said monitoring of the respective neighboring component and determination of the current condition of the respective neighboring component is carried out based on a leasing method.</p>	<p>HP 6300 switch router performs the method of claim 2, wherein at least one of said monitoring of the respective neighboring component and determination of the current condition of the respective neighboring component is carried out based on a leasing method.</p>

The R-APS messages transmitted by ERPS take the form of OAM PDUs as defined in G.8013. Each OAM PDU is transmitted at a specified level known as the Maintenance Entity Group (MEG) level. This command configures the level with which the ERPS packets must be transmitted.

The `no` form of this command removes the configured MEG level and sets it to the default value of 7.

Parameter	Description
<RINGID>	Required, specifies the ID of the ring. Range: 1-239
<0-7>	Required, specifies the meg-level. Range: 0-7. Default: 7.

Examples

Specify the meg-level:

```
switch(config)# erps ring 3
switch(config-erps-ring-3)# meg-level 4
```

Remove the configured meg-level and set it to the default value of 7:

```
switch(config)# erps ring 3
switch(config-erps-ring-3)# no meg-level
```

See, e.g., https://www.arubanetworks.com/techdocs/AOS-CX/10.08/HTML/high_availability/Content/Chp_ERPS/ERPS_cmds/erp-rin-rinid-meg-lev.htm

Signal fail (SF)	When a link fails to send or receive signals, the node that detects the fault periodically sends SF packets. When the owner node and neighbor node receive the FS packets, they unblock the RPL ports. The node stops sending SF packets after the fault is cleared.
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See, e.g., https://techhub.hpe.com/eginfolib/networking/docs/switches/5950/5200-4008_hi-avail_cg/content/499751770.htm

	<p>The OAM PDU used for ETH-CC information is CCM, as described in clause 9.2. Frames which carry the CCM PDU are called CCM frames.</p> <p>7.1.1 CCM (with ETH-CC information) transmission</p> <p>When ETH-CC is enabled, a MEP periodically transmits CCM frames as often as the configured transmission period. The transmission period can be one of the following seven values:</p> <ul style="list-style-type: none"> • 3.33 ms: default transmission period for protection switching application (transmission rate of 300 frames/second); • 10 ms: (transmission rate is 100 frames/second); • 100 ms: default transmission period for performance monitoring application (transmission rate of 10 frames/second); • 1 s: default transmission period for fault management application (transmission rate of 1 frame/second); • 10 s: (transmission rate of 6 frames/minute); • 1 min: (transmission rate of 1 frame/minute); • 10 min: (transmission rate of 6 frames/hour); <p><i>See, e.g., ITU-T G.8013/Y.1731 at p. 11.</i></p> <p>List of peer MEP IDs – list of peer MEPs in the MEG. For a point-to-point MEG with a single ME, the list would consist of a single MEP ID for the peer.</p> <p><i>See, e.g., ITU-T G.8013/Y.1731 at p. 10.</i></p>
<p>4. The method as claimed in claim 3, wherein with regard to the leasing method, an “Alive” message is sent from the respective neighboring component.</p>	<p>HP 6300 switch router performs the method of claim 3, wherein with regard to the leasing method, an “Alive” message is sent from the respective neighboring component.</p>

The R-APS messages transmitted by ERPS take the form of OAM PDUs as defined in G.8013. Each OAM PDU is transmitted at a specified level known as the Maintenance Entity Group (MEG) level. This command configures the level with which the ERPS packets must be transmitted.

The `no` form of this command removes the configured MEG level and sets it to the default value of 7.

Parameter	Description
<RINGID>	Required, specifies the ID of the ring. Range: 1-239
<0-7>	Required, specifies the meg-level. Range: 0-7. Default: 7.

Examples

Specify the meg-level:

```
switch(config)# erps ring 3
switch(config-erps-ring-3)# meg-level 4
```

Remove the configured meg-level and set it to the default value of 7:

```
switch(config)# erps ring 3
switch(config-erps-ring-3)# no meg-level
```

See, e.g., https://www.arubanetworks.com/techdocs/AOS-CX/10.08/HTML/high_availability/Content/Chp_ERPS/ERPS_cmds/erp-rin-rinid-meg-lev.htm

When a MEP receives a CCM frame, it examines it to ensure that its MEG ID matches the configured MEG ID in the receiving MEP, and that the MEP ID in the CCM frame is one from the configured list of peer MEP IDs. The information in the CCM frame is catalogued in the receiving MEP.

See, e.g., ITU-T G.8013/Y.1731 at p. 11.

	<p>CCM frames allow the detection of different defect conditions, which include:</p> <ul style="list-style-type: none"> • If no CCM frames from a peer MEP are received within the interval equal to 3.5 times, the receiving MEP's CCM transmission period, loss of continuity with peer MEP is detected. • If a CCM frame with a MEG level lower than the receiving MEP's MEG level is received, unexpected MEG level is detected. • If a CCM frame with the same MEG level but a MEG ID different than the receiving MEP's own MEG ID is received, mismerge is detected. • If a CCM frame with the same MEG level and a correct MEG ID but with an incorrect MEP ID, including the receiving MEP's own MEP ID, is received, unexpected MEP is detected. • If a CCM frame is received with a correct MEG level, a correct MEG ID, a correct MEP ID, but with a period field value different to the receiving MEP's own CCM transmission period, unexpected period is detected. <p>A receiving MEP must notify the equipment fault management process when it detects the above defect conditions.</p> <p><i>See, e.g.,</i> ITU-T G.8013/Y.1731 at p. 12.</p> <p>List of peer MEP IDs – list of peer MEPs in the MEG. For a point-to-point MEG with a single ME, the list would consist of a single MEP ID for the peer.</p> <p><i>See, e.g.,</i> ITU-T G.8013/Y.1731 at p. 10.</p>
<p>5. The method as claimed in claim 4, wherein the “Alive” information is sent periodically.</p>	<p>HP 6300 switch router performs the method of claim 4, wherein the “Alive” information is sent periodically.</p>

The R-APS messages transmitted by ERPS take the form of OAM PDUs as defined in G.8013. Each OAM PDU is transmitted at a specified level known as the Maintenance Entity Group (MEG) level. This command configures the level with which the ERPS packets must be transmitted.

The `no` form of this command removes the configured MEG level and sets it to the default value of 7.

Parameter	Description
<RINGID>	Required, specifies the ID of the ring. Range: 1-239
<0-7>	Required, specifies the meg-level. Range: 0-7. Default: 7.

Examples

Specify the meg-level:

```
switch(config)# erps ring 3
switch(config-erps-ring-3)# meg-level 4
```

Remove the configured meg-level and set it to the default value of 7:

```
switch(config)# erps ring 3
switch(config-erps-ring-3)# no meg-level
```

See, e.g., https://www.arubanetworks.com/techdocs/AOS-CX/10.08/HTML/high_availability/Content/Chp_ERPS/ERPS_cmds/erp-rin-rinid-meg-lev.htm

	<p>The OAM PDU used for ETH-CC information is CCM, as described in clause 9.2. Frames which carry the CCM PDU are called CCM frames.</p> <p>7.1.1 CCM (with ETH-CC information) transmission</p> <p>When ETH-CC is enabled, a MEP periodically transmits CCM frames as often as the configured transmission period. The transmission period can be one of the following seven values:</p> <ul style="list-style-type: none"> • 3.33 ms: default transmission period for protection switching application (transmission rate of 300 frames/second); • 10 ms: (transmission rate is 100 frames/second); • 100 ms: default transmission period for performance monitoring application (transmission rate of 10 frames/second); • 1 s: default transmission period for fault management application (transmission rate of 1 frame/second); • 10 s: (transmission rate of 6 frames/minute); • 1 min: (transmission rate of 1 frame/minute); • 10 min: (transmission rate of 6 frames/hour); <p><i>See, e.g., ITU-T G.8013/Y.1731 at p. 11.</i></p>
<p>6. The method as claimed in claim 5, wherein the functional incapacity of the neighboring component is determined if the respective neighboring component does not send any “Alive” information for a predetermined period of time.</p>	<p>HP 6300 switch router performs the method of claim 5, wherein the functional incapacity of the neighboring component is determined if the respective neighboring component does not send any “Alive” information for a predetermined period of time.</p>

The R-APS messages transmitted by ERPS take the form of OAM PDUs as defined in G.8013. Each OAM PDU is transmitted at a specified level known as the Maintenance Entity Group (MEG) level. This command configures the level with which the ERPS packets must be transmitted.

The `no` form of this command removes the configured MEG level and sets it to the default value of 7.

Parameter	Description
<RINGID>	Required, specifies the ID of the ring. Range: 1-239
<0-7>	Required, specifies the meg-level. Range: 0-7. Default: 7.

Examples

Specify the meg-level:

```
switch(config)# erps ring 3
switch(config-erps-ring-3)# meg-level 4
```

Remove the configured meg-level and set it to the default value of 7:

```
switch(config)# erps ring 3
switch(config-erps-ring-3)# no meg-level
```

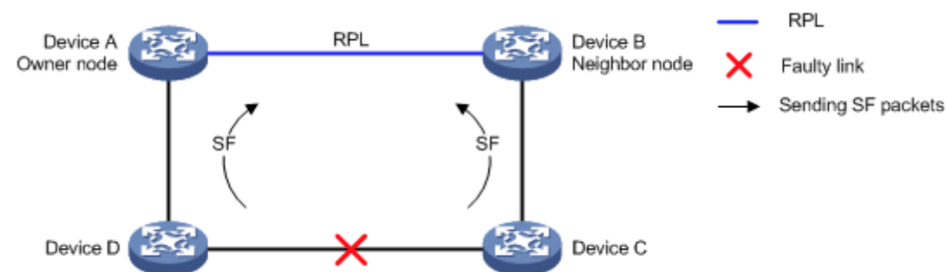
See, e.g., https://www.arubanetworks.com/techdocs/AOS-CX/10.08/HTML/high_availability/Content/Chp_ERPS/ERPS_cmds/erp-rin-rinid-meg-lev.htm

	<p>The OAM PDU used for ETH-CC information is CCM, as described in clause 9.2. Frames which carry the CCM PDU are called CCM frames.</p> <p>7.1.1 CCM (with ETH-CC information) transmission</p> <p>When ETH-CC is enabled, a MEP periodically transmits CCM frames as often as the configured transmission period. The transmission period can be one of the following seven values:</p> <ul style="list-style-type: none"> • 3.33 ms: default transmission period for protection switching application (transmission rate of 300 frames/second); • 10 ms: (transmission rate is 100 frames/second); • 100 ms: default transmission period for performance monitoring application (transmission rate of 10 frames/second); • 1 s: default transmission period for fault management application (transmission rate of 1 frame/second); • 10 s: (transmission rate of 6 frames/minute); • 1 min: (transmission rate of 1 frame/minute); • 10 min: (transmission rate of 6 frames/hour); <p><i>See, e.g., ITU-T G.8013/Y.1731 at p. 11.</i></p> <p>CCM frames allow the detection of different defect conditions, which include:</p> <ul style="list-style-type: none"> • If no CCM frames from a peer MEP are received within the interval equal to 3.5 times, the receiving MEP's CCM transmission period, loss of continuity with peer MEP is detected. <p><i>See, e.g., ITU-T G.8013/Y.1731 at p. 12.</i></p>
<p>7. The method as claimed in claim 6, wherein said informing all the other components about the predefined condition of the respective neighboring component is carried out</p>	<p>HP 6300 switch router performs the method of claim 6, wherein said informing all the other components about the predefined condition of the respective neighboring component is carried out using an “Inform All” method.</p>

using an “Inform All” method.

Link-down report mechanism

Figure 25: Link-down report mechanism



As shown in [Figure 25](#), the link-down report mechanism uses the following process:

1. Device C and Device D detect the link failure and perform the following operations:
 - a. Block the ports on both side of the faulty link.
 - b. Periodically send SF packets to other nodes.

See, e.g., https://techhub.hpe.com/eginfolib/networking/docs/switches/5950/5200-4008_hi-avail_cg/content/499751773.htm


[14pre]. At least one non-transitory computer-readable medium encoded with at least one computer program that when executed by at least one processor performs a method comprising:

HP 6300 switch includes at least one memory and processor running Junos OS 13.2R2 or newer.

Additional Specifications				
CPU	Quad Core ARM Cortex™ A72 @ 1.8GHz	Quad Core ARM Cortex™ A72 @ 1.8GHz	Quad Core ARM Cortex™ A72 @ 1.8GHz	Quad Core ARM Cortex™ A72 @ 1.8GHz
Memory and Flash	8 GB DDR4 32 GB eMMC	8 GB DDR4 32 GB eMMC	8 GB DDR4 32 GB eMMC	8 GB DDR4 32 GB eMMC
Packet Buffer	8 MB Packet Buffer Memory	8 MB Packet Buffer Memory	8 MB Packet Buffer Memory	8 MB Packet Buffer Memory

See https://www.arubanetworks.com/assets/ds/DS_6300Series.pdf

<p>[14a] each component in a logical ring structure monitoring only a single neighboring component among distributed components that is a predecessor or successor of said each component in the logical ring structure to determine a current condition of the neighboring component; and</p>	<p>Each HP 6300 switch router organized in a ring structure monitors only a single neighboring component among distributed components that is a predecessor or successor of said each component in the logical ring structure to determine a current condition of the neighboring component.</p> <p><i>See supra</i> claim element [1a].</p>
<p>[14b] each component in the logical ring structure informing all other components of the system about the current condition of the neighboring component when the current condition corresponds to a predefined condition.</p>	<p>Each HP 6300 switch router organized in a ring structure informs all other components of the system about the current condition of the neighboring component when the current condition corresponds to a predefined condition.</p> <p><i>See supra</i> claim element [1b].</p>
<p>15. A network with distributed components, comprising:</p>	<p>HP provides a switching network with 6300 switch routers.</p>

	<p>ERPS supported on the following switches:</p> <div data-bbox="583 272 630 324"></div> <ul style="list-style-type: none"> ▪ 6300 ▪ 6400 ▪ 8320 ▪ 8325 ▪ 8360 ▪ 8400 <hr/> <p>Ethernet Ring Protection Switching (ERPS) is a protocol defined by the International Telecommunication Union - Telecommunication Standardization Sector (ITU-T) to eliminate loops at Layer 2. Because the standard number is ITU-T G.8032/Y1344, ERPS is also called G.8032. ERPS defines Ring Auto Protection Switching (RAPS) Protocol Data Units (PDUs) and protection switching mechanisms.</p> <p>See https://www.arubanetworks.com/techdocs/AOS-CX/10.08/HTML/high_availability/Content/Chp_ERPS/erp-tit-onl.htm</p> <p>Generally, redundant links are used on an Ethernet switching network such as a ring network to provide link backup and enhance network reliability. The use of redundant links, however, may result in creating network loops, causing broadcast storms, and rendering the MAC address table unstable. As a result, communication quality deteriorates, and communication services may even be interrupted.</p> <p>Ethernet networks demand faster protection switching. STP does not meet the requirement for fast convergence.</p> <p>ERPS, a standard ITU-T protocol, prevent loops on ring networks. It optimizes detection and performs fast convergence. ERPS allows all ERPS-capable devices on a ring network to communicate.</p> <p>See https://www.arubanetworks.com/techdocs/AOS-CX/10.08/HTML/high_availability/Content/Chp_ERPS/erp-tit-onl.htm</p> <p>Created for game-changing operational efficiency with built-in security and resiliency, the CX 6300 switches provide the foundation for high-performance networks.</p> <p>See, e.g., https://www.arubanetworks.com/products/switches/6300-series/</p>
<p>components organized in a logical ring structure, each component monitoring only a single respective neighboring component among components that is a</p>	<p>HP 6300 switch routers are organized in a logical ring structure, each component monitoring only a single respective neighboring component among components that is a predecessor or successor of said each component in the logical ring structure to determine a current condition of the respective neighboring component.</p> <p>See supra claim element [1a].</p>

predecessor or successor of said each component in the logical ring structure to determine a current condition of the respective neighboring component and	
informing all other components of said network when the current condition of the respective neighboring component corresponds to a predefined condition.	<p>HP 6300 switch routers inform all other components of said network when the current condition of the respective neighboring component corresponds to a predefined condition.</p> <p><i>See supra</i> claim element [1b].</p>